

Recent Fern Literature

THE DEVELOPMENTAL ANATOMY OF ISOETES, by Dominick J. Paolillo, Jr., Illinois Biological Monographs, No. 31. University of Illinois Press, Urbana, 1963. \$2.50 paper, \$3.50 cloth. 130 pp., including 19 plates.—This recent book of interest to many pteridologists has come to my desk. It is a handsome book, well-printed and bound and of pleasing format. In addition to the general introductory sections there are three parts to the work headed "The Shoot," "The Root-Producing Meristem," and "The Apical Meristem of the Root." Each section consists of a review of literature, observations, and discussion, plus a summary and conclusions. The literature reviews are quite detailed. The observations consist of careful descriptions of structure as seen in serial sections. Perhaps anatomical descriptions are by nature difficult to follow, but at times it does seem that the author could have found some way to make this less laborious.

Considering the contents, the title of this book is misleading. It would be more aptly titled "Some aspects of the developmental anatomy of Isoetes," since it deals with only the relatively mature sporophyte, and does not include the leaf. In fact, in this reviewer's opinion, it would have been better published as a series of papers in a journal rather than as a book.

Such a highly specialized and detailed book as this one probably will not be added to many private libraries. But it is a contribution to pteridology and should certainly be part of any University library.—RICHARD L. HAUKE, *Department of Botany, University of Rhode Island, Kingston, Rhode Island.*

FLORA OF MISSOURI,¹ by Dr. J. A. Steyermark, contains a complete account of the ferns (49 species, including two introduced species and two admitted hybrids, in 24 genera) and fern-allies (13 species in four genera) of Missouri. The figures cited show

¹Flora of Missouri, by J. A. Steyermark, pp. i-lxxxiii, 1-1725, pl. 1-390. 1963. Published by Iowa State University Press, Ames, Iowa, \$18.50. By a strange oversight on the part of the printers, early copies of the book contain no date of publication. According to Iowa State University Press the date was November 12, 1963.

that Missouri is not so rich in ferns as some states, but nevertheless there are many interesting species. The treatment is modeled on Deam's famous "Flora of Indiana," and compares favorably with that monumental work. Like Deam, Steyermark has spent many years in the study of the flora of his state, and the results, in the keys and comments, indicate that the book is not a compilation but shows an intimate knowledge of the plants both in the field and in the herbarium. There are no descriptions, but the keys are unusually full and usable. Each species is accompanied by a map showing its distribution by counties. An initial key to the species is followed by a key based wholly on sterile material, which should be useful. The nomenclature in general follows that in Gleason's New Illustrated Flora. A few of the names are not in the form required or recommended by the Code of Nomenclature. According to Art. 73, note, the diaeresis should be used in the name *Isoëtes*, genitives from personal names such as Engelmann should be corrected to *engelmannii* (even though originally spelled "*engelmanni*") (Art. 73, Note 3), a terminal "y" is regarded as a vowel, and so *Cystopteris fragilis* var. *mackayii* should be corrected to "*mackayi*," the double "i" being considered as an orthographic error, and finally *Athyrium thelypteroides* should be *thelpyterioides*, the original spelling, which cannot be considered an orthographic error since it is etymologically possible. The only misprint that I have noticed is an unfortunate one: On page 30 in the key to the species of *Asplenium* the species *A. × ebenoides* appears as "*A. × asplenioides*." An observation of interest noted by Tryon in "Ferns and Fern Allies of Minnesota," p. 138, is that *Lycopodium selago* var. *patens* has stomata on both surfaces of the leaves, whereas in *L. lucidulum* the stomata are on the lower surface only. These species and their varieties are perplexing and little known. Since *Lycopodium* possesses very few characters, this one of the stomata may prove to be of importance. Of course, the major portion of the book is devoted to the flowering plants. Altogether, according to the summary on p. 1665, there

are 799 genera and 2438 species treated, and in addition hundreds of subspecies, varieties, forms, and hybrids. Dr. Steyermark is certainly to be congratulated on a fine and scholarly piece of work, which is going to be permanently useful, not only to those working on Missouri plants but to systematic botanists in general.—C. V. MORTON

ARNOLD, CHESTER A. & LYMAN E. DAUGHERTY. 1963. The fern genus *Acrostichum* in the Eocene Clarno Formation of Oregon. *Contr. Mus. Paleont. Univ. Mich.* **18**: 205–227 (6 pls.).—A brief resume of the ecological requirements of ferns in this genus sets the background for speculation about the conditions under which the fossil materials were deposited and preserved. The descriptions of the petrifications, which occur in chert, are excellent and the photomicrographs of the thin sections are superb. The paper is technical, but will be of interest to many of the Fern Society's members.

FABBRI, F. 1963. Primo supplemento alle Tavole Cromosomische Della Pteridophyta de Alberto Chiarugi. *Caryologia* **16**: 237–335.—Continuing the work done by Chiarugi. The discussion in this paper is in English.

HEVLY, RICHARD H. 1963. Adaptations of cheilanthoid ferns to desert environments. *Jour. Arizona Acad. Sci.* **2**: 164–175.—Contains some interesting and instructive ecological information.

NAYAR, B. K. 1963. Contributions to the morphology of *Lep-tochilus* and *Paraleptochilus*. *Amer. Jour. Bot.* **50**: 301–308.—Technical description of morphology and anatomy. Illustrated with line drawings and half tones.

NAYAR, B. K. & FARRUH KAZMI. 1962. Ferns of India. IV. *Plagiogyria*. V. *Hemionitis*. VI. *Cheilanthus*. VII. *Actiniopteris*. *Bull. Nat. Bot. Gard. (Lucknow)* No. 64, 67, 68, and 75, respectively.—Each part is bound as a small booklet that contains long descriptions, considerable morphology, keys to the species, and with halftone reproductions of varying quality showing different parts of the plants. Line drawings used to illustrate the morphology and anatomy are good. There is an

index to the species and references to pertinent literature.

SCAMMAN, EDITH. 1962. The genus *Eriosorus* in Costa Rica. *Contr. Gray Herb.* No. **191**: 81–89.—A key to the five species, brief general descriptions, statement of range, synonymy, and citation of species are included. Line drawings are very good.

TRYON, ALICE. 1962. A monograph of the fern genus *Jamesonia*. *Contr. Gray Herb.* No. **191**: 109–197, plus index.—Includes a key to the species, distribution maps, halftones and line drawings to illustrate various critical features. This is an indispensable book for anyone dealing with the ferns of the Andes, the mountains of Central America and southern Mexico. One who has tried to determine a species of *Jamesonia* without it can fully appreciate the service Mrs. Tryon has rendered all pteridologists!

TRYON, ROLLA. 1962. Taxonomic Fern Notes. III. *Contr. Gray Herb.* No. **191**: 91–107.—Five short notes on systematics of various genera. Includes new a generic name, **Blotiella**, based on *Lonchitis* Kümmerle (not Linn.), and seven new combinations in *Blotiella*. It includes also one new species, *Dorypteris allenae*; a new combination in *Alsophila*, some clarification of the genus *Saccoloma* Kaulf., and a note about the type species described by Kaulfuss, including a reproduction of Kaulfuss' signature.

WESSELS BOER, J. G. 1962. The New World species of *Trichomanes* Sect. *Didymoglossum* and *Microgonium*. *Acta Bot. Neerlandica* **11**: 277–330.—A technical monograph carefully done.

SLATER, JAMES R. 1964. Fern distribution in Washington State. *Occ. Papers dept. Biol. Univ. Puget Sound* No. **27**: 242–257 + 2 unnumbered, double page tables.—Fifty-two taxa based on specimens examined, with county occurrences given under each, are recorded, and county records for 23 added taxa taken from the literature are included in the tables only. Small type and extensive use of abbreviations make use of the booklet slow at first. It will be of considerable value to visitors wishing to find a particular fern within the state of Washington.